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54 **Mobile radio communication system.**

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Description

This invention relates to a mobile radio communication system comprising a fixed station connected to a subscriber's line of a telephone exchange and a mobile station linked with the fixed station through a radio channel, and more particularly to a mobile radio communication system having an improved charging system.

As one of radio telephone systems, there is a cordless telephone system in which a cordless telephone set is linked with only one fixed station through a radio channel. Therefore, its service area is extremely small. For this reason, the cordless telephone set can not be used on the outside of the area, so that a user must use a nearby public telephone set.

Although a radio paging (pocket bell system) has a wide service area, this system is used for only calling, so that the user must also use a public telephone set at the time of origination.

A wide area radio telephone system can solve these problems and it is desirable to provide a wider area radio telephone system which can ensure origination and termination at any place and at any time. Such a system, however, necessarily uses a telephone line and faces an important problem in charging rate at the time of origination from a mobile station or a mobile set.

US-A-3 764 747 describes a billing system in a mobile communication wherein communication is provided between mobile station and an ordinary telephone network, i.e. just one telephone network. A calling-box is installed on the moveable object and the measurements of time and billing are performed on the moveable object while a specific signal (outband signal) is received from the fixed station.

Summary of the Invention

It is an object of this invention to provide a mobile radio communication system capable of ensuring a telephone service in a wide area with a relatively small number of radio channels by providing rate charging means for a mobile station which can be connected to any fixed station installed at a terminal end of a telephone network.

Another object of this invention is to provide a mobile radio communication system capable of increasing the service area of a mobile station by permitting a mobile station to be connected to any fixed station connected to a public telephone line and to a specific fixed station connected to an ordinary telephone line.

These objects are solved with the features of claim 1 and claim 2.

Brief Description of the Drawings

In the accompanying drawings;

Fig. 1 is a block diagram showing a system to which the mobile radio communication system of this invention is applicable;

Fig. 2 is a block diagram showing an embodiment of a mobile station and a fixed station (or fixed radio station) employed in the system of this invention;

Fig. 3 is a flow chart for explaining the operation of the apparatus shown in Fig. 2;

Fig. 4 is a block diagram showing a modification of the mobile station shown in Fig. 2;

Fig. 5 is a diagrammatic representation showing another system to which the mobile radio communication system of this invention is applicable;

Fig. 6A shows one example of a rate charging unit; and

Fig. 6B shows another example of the rate charging unit.

Description of the Preferred Embodiments

The invention will now be described in detail with reference to the accompanying drawings.

The mobile radio communication system shown in Fig. 1 comprises a telephone exchange 1, fixed stations 2 and 3, and mobile stations 4 and 5. Reference numerals 6 and 7 designate the service areas of fixed stations 2 and 3, respectively.

When the mobile station 4 originates, an origination connection is made to the fixed station 2, since the mobile station 4 is in the service area of the fixed station 2, to transmit a rate charging signal to the fixed station 2, whereby the mobile station 4 collects the rate to permit talking. When the mobile station 4 moves to a position of a mobile station 5 and then originates, an origination connection is made to the fixed station 3 since the mobile station 5 is in the service area of the fixed station 3. Then, the fixed station 3 transmits to the mobile station a rate charging signal in order for the mobile station 5 to collect the rate, thus permitting talking.

The mobile station and the fixed station as operable in the system of Fig. 1 are exemplified as a mobile station 10 and a fixed station 50 in Fig. 2 in accordance with teachings of the present invention. The mobile station 10 comprises a transmitting section 10a, a receiving section 10b, a control section 10c, and a rate charging section 10d. The transmitting section 10a includes a telephone transmitter (microphone) 11, an amplifier 12 amplifying a voice signal from the transmitter 11, a transmission signal switching circuit 13 connected to the output of the amplifier 12 for switching a transmis-

sion signal to a transmitter 14 which converts the transmission signal from the switching circuit 13 into a radio frequency signal, and a transmitting antenna 15 for radiating the output of the transmitter 14 into air.

The receiving section 10b includes a receiver 24 for receiving and demodulating a radio frequency signal from a receiving antenna 25, a reception signal switching circuit 23 connected to receive the demodulated output of the receiver 24 for passing only a voice signal, and an amplifier 22 for amplifying the voice signal outputted from the switching circuit 23 and driving a telephone receiver 21.

The control section 10c includes a control signal detector 31, a transmission control signal generator 32, a hook switch 34, and a control circuit 35. The detector 31 receives the demodulated output of the receiver 24 and detects a control signal contained in the demodulated signal and sent from the fixed station. The control circuit 35 decodes the output signals from the detector 31 and the hook switch 34 to control the switching circuits 13 and 23, as well as the generator 32 and a rate charging circuit 33. The generator 32 is responsive to a signal from the control circuit 35 and generates a transmission control signal which is sent to the switching circuit 13.

The rate charging section 10d includes the rate charging circuit 33 connected to the control circuit 35 and containing an amount of money information representing the rate.

The switching circuit 13 responds to a switch control signal from the control circuit 35 and supplies either the voice signal (information signal) from the amplifier 12 or the transmission control signal from the generator 32, to the transmitter 14. The switching circuit 23 prevents the passage of the other signal than the voice signal to the amplifier 22 in response to a rate charging signal or other control signals from the control circuit 35.

The fixed station 50 comprises a transmitting section 50a, a receiving section 50b, a control section 50c and a line connection section 50d.

The line connection section 50d includes loop switch 72 connected to a telephone subscriber's line 73 from the telephone exchange, and a hybrid network 71 having two wire/four wire conversion performance.

The transmitting section 50a includes an amplifier 54 connected to the network 71 for amplifying the voice signal from the subscriber's line 73 and outputted from the network 71, a transmission signal switching circuit 53 for switching the output of a control signal generator 75, a transmitter 52 for connecting the output of the switching circuit 53 into a radio frequency signal, and a transmission antenna 51 for radiating into air the

output of the transmitter 52.

The receiving section 50b includes a receiver 62 for receiving and demodulating the radio frequency signal from a receiving antenna 61, a reception signal switching circuit 63 connected to receive the demodulated output of the receiver 62 for passing only the voice signal, and an amplifier 64 amplifying the output signal of the reception signal switching circuit 63 for supplying an amplified signal to the network 71.

The control section 50c includes a control signal detector 74 connected to receive the demodulated output of the receiver 62 for detecting a control signal from the mobile station, a rate charging signal detector 76 connected to the subscriber's line 73 for detecting a rate charging signal sent from the telephone exchange, a control circuit 77 which is responsive to signals sent from the rate charging signal detector 76 and the control signal detector 74 for controlling the switching circuits 53 and 63, the loop switch 72 and the generator 75. The generator 75 is responsive to a signal from the control circuit 77 and generates a transmission control signal sent to the transmission signal switching circuit 53.

The switching circuits 53 and 63 operate in a similar manner to the circuits 13 and 23, respectively.

The speech operation of the mobile station and the fixed station having constructions as described above will now be described.

To originate at the mobile station 10, the hook switch 34 is first operated. In response to a signal from the hook switch 34, the control circuit 35 is started to control the generator 32 and the switching circuit 13 so as to cause the transmitter 14 to send an origination signal to the fixed station 50. The originating signal is received by the receiver 62 of the fixed station 50, and this signal is detected by detector 74 and then inputted to the control circuit 77. In response to the origination signal from the mobile station 10, the control circuit 77 operates the loop switch 72 so as to send the origination signal to the telephone exchange to start speech.

The rate charging operation characterizing the invention will be described with reference to the flow chart shown in Fig. 3.

When speech is started, a rate charging signal corresponding to a speech rate is sent from the telephone exchange through the subscriber's line 73. Generally, the rate charging signal is formed by inverting the polarity of a signal on the subscriber's line. The rate charging signal is detected by the rate charging signal detector 76 at step S1 and applied to the control circuit 77. In response to the signal from the rate charging signal detector 76, the control circuit 77 drives the control signal gen-

erator 75 and switches the switching circuit 53 so that the output signal of the generator 75 is supplied to the transmitter 52, thereby causing the transmitter 52 to send a rate charging signal to the mobile station 10 at step S2. At step S5, the mobile station 10 receives the rate charging signal from the fixed station 50 and the rate charging signal is detected by the control signal detector 31 and supplied to the control circuit 35. At step S6, the control circuit 35 inputted with the rate charging signal subtracts an amount corresponding to the rate charging signal from the amount of money information of the rate charging circuit 33, thereby collecting the rate. Where the money information has been reduced to a value at which subtraction is no more possible, the speech must be interrupted since it is impossible to collect the rate any more. When this state is detected by the control signal, the generator 32 is driven, at step S8, to generate a speech termination signal which is transmitted to the fixed station 50 via transmitter 14, thus terminating the speech at step S9. At step S3, the speech termination signal from the mobile station is received by the receiver 62 of the fixed station 50, detected by the control signal detector 74 and then supplied to the control circuit 77. The control circuit 77 inputted with the speech termination signal controls the loop switch 72 to open a DC loop, thus terminating the speech through the telephone exchange at step S4.

The rate charging circuit 33 storing an amount of money information and acting as rate collecting means utilizes a magnetic memory such as a magnetic card or a bubble memory device, and an information read/write circuit. The rate charging circuit 33 is then constructed such that when collecting a rate corresponding to previously written money information, an amount of money information from which the rate read out and to be collected has been subtracted is written again into the rate collecting device. For constructing the magnetic rate collecting device, the magnetic memory may be replaced by such a semiconductor memory as a random access memory (RAM) or a fuse read only memory.

Fig. 4 shows a modification of the mobile station utilized in the system of this invention. The mobile station shown in Fig. 4 is characterized in that a display device 36 displaying an amount of money information is added to the rate charging circuit 33 shown in Fig. 2. As shown by step S10 in Fig. 3, the display device 36 is controlled by the control circuit 35 to display the state of rate collection. Accordingly, the user of the mobile station is informed of the amount of the remaining money which can be used for speech. This performance is used to check the amount of money information of the rate charging circuit 33 at the time of origina-

tion and prior to the sending out of the speech signal. When there is no money remaining, that is, where the collection of rate is impossible, this state is displayed to stop the origination, thus preventing emitting of useless electric wave.

In the embodiment described above, when a public telephone line is used as a telephone line connected to the fixed station, it is possible to collect the rate by transmitting the rate information from a public telephone exchange network to the fixed station without modifying the telephone exchange, thus simplifying the construction of the system. In this case, the fixed station 50 may be installed near a public telephone set, for example, in the same public telephone box in which a public telephone set commonly utilizing the telephone line is installed. Further, it is possible to mount the fixed station on a near by telephone post.

As described above, according to this invention, since the rate collecting means is provided for a mobile station, it is possible to collect the rate without modifying the rate collecting system of the telephone exchange system. For this reason, notwithstanding with a small zone system, no position registration and no individual identification of the mobile stations from the side of the telephone exchange are necessary. Thus, a mobile station can be connected to any fixed station and it is possible to realize a wide area telephone service with a small cost.

Fig. 5 shows another system to which the mobile communication system of this invention is applied. The system shown therein comprises an ordinary subscriber's line 101, a telephone exchange 102 connected to the line 101, a telephone set 103, a fixed station 104, and a mobile station 105 connected to the fixed station through a radio channel. The service area of the mobile station 105 is shown by SA1 which is the same as that of the ordinary cordless telephone system.

According to this invention, the mobile station 105 can be rendered operative on the outside of the ordinary service area SA1. It is now assumed that the mobile station 105 has moved into service area SA2 as shown by 105'. The service area SA2 is serviced by a fixed station 108 connected to a public telephone line, and the fixed station 108 and the mobile station 105' are interconnected by a radio channel.

In accordance with the invention, the mobile station is made compatible to both the service areas SA1 and SA2 associated with the ordinary subscriber's line and the public telephone line, respectively. Since the collection of rate on the mobile station is required when the mobile station is connected to any fixed station connected to the public telephone line whereas the collection of rate is not required when the mobile station is con-

ected to a specific fixed station connected to the ordinary subscriber's line, accessing to the rate collecting means on the mobile station is enabled or disabled in accordance with a service area in which the mobile station exists.

An example of rate collecting means to this end is illustrated in Fig. 6A. A rate collecting means 200 may substitute for the rate charging circuit 33 and display device 36 shown in Fig. 4. An analog switch 201 and a rate information detection circuit 202 are interposed between the control circuit 35 and a rate charging device including a calculating circuit 204, a rate unit 205 comprising a magnetic card, semiconductor memory or the like, and a display device 203.

The operation of the mobile station in the service area SA1 is similar to that of the prior art cordless telephone system, and the rate collection is made on the side of the telephone exchange. For this reason, the rate collecting means 200 is rendered inoperative by so operating a switch SW1 that the analog switch 201 is opened. The state of the switch SW1 is detected by the control circuit 35 so as to send out a control signal in an ordinary mode.

When the mobile station is used in the service area SA2, the switch SW1 is maintained in a rate mode with the analog switch 201 turned on or closed. Consequently, rate information sent from the telephone exchange connected to the public telephone line at the time of speech is detected by the rate information detection circuit 202 and sent to the calculating circuit 204. Each time the rate information is inputted, the calculating circuit 204 changes the content of the rate unit 205, and the rate state of the rate unit 205 is displayed on the display device 203.

Instead of utilizing the switch SW1 which switches service areas SA1 and SA2 for a mobile station, the rate unit may be made physically removable. There are two methods of removal. First, the rate collecting means 200 shown in Fig. 6A is constructed as a cartridge type so that the mode can be switched by mounting and dismounting the cartridge type rate collecting means. This method can be used widely because the cartridge type rate collecting means can be optionally mounted on the prior art cordless telephone set. Second, as shown in Fig. 6B, the rate unit 205 in the form of a magnetic card or a semiconductor memory is made removable. When the rate unit 205 is connected to a rate unit connector 210, the calculating circuit 204 sets the mobile station in a rate mode through a signal line 211 to enable the connection to the fixed station connected to the public telephone line. This method is advantageous in that when the rate unit is in the form of a magnetic card, switching operation becomes easy. In Fig.

6B, a rate collecting means is generally designated by 300.

As described above, this modification permits the connection of a mobile station to a specific subscriber's line or any public telephone line, thereby increasing the service area of the mobile station.

Claims

1. A mobile radio communication system comprising a plurality of fixed stations (50) respectively connected to a plurality of subscriber's lines extending from a telephone exchange, and a plurality of mobile stations (10,10') linked with said fixed stations (50), through radio channels, each of said mobile stations effecting speech via one of said fixed stations, further comprising means (76, 77, 75) provided for each fixed station for transmitting rate charging information from said telephone exchange to a mobile station under speech, and rate collecting means (31,35,33) provided for each mobile station (10) and being responsive to said rate charging information to vary its content characterized in that the rate collecting means (31, 35, 33) comprises switching means for enabling the connection of said rate charging information to a rate charging circuit (33) of said rate collecting means when said mobile station under speech connects to a fixed station connected to a subscriber's line of public telephone and for disabling said connection when said mobile station under speech connects to a specific fixed station connected to an ordinary subscriber's line.
2. The mobile radio communication system according to claim 1 wherein said switching means comprises a switch for electrically disconnecting said rate collecting means from said mobile station.
3. The mobile radio communication system according to claim 1 wherein said switching means comprises means for physically disconnecting said rate collecting means from said mobile station.
4. The mobile radio communication system according to any one of claims 1 to 3 wherein said rate collecting means comprises a rate charging circuit (33) for storing an amount of money information, said stored information being varied in response to said rate information.
5. The mobile radio communication system according to any one of claims 1 to 4, wherein

said rate collecting means comprises display means (36) for displaying contents of a rate charging circuit (33) of said rate collecting means.

6. The mobile radio communication system according to any of claims 1 to 5 wherein said rate collecting means comprises a magnetic card or a semiconductor memory.
7. The mobile radio communication system according to claim 6 wherein said switching means comprises a switch for electrically disconnecting said rate collecting means from said mobile station in response to mounting and dismounting of said magnetic card or semiconductor memory.
8. A mobile station linking with a fixed station through radio channel comprising:
 - a transmitting section (10a) for transmitting a transmission information signal and a transmission control signal to said fixed station connected to a subscriber's line;
 - a receiving section (10b) for receiving a reception information signal and a reception control signal from said fixed station;
 - a rate charging section (10d)
 - a control section (10c) for controlling access of said reception control signal to said rate charging section (10d) and transmission of said transmission control signal from said rate charging section (10d) to said fixed station; characterized in that the mobile station comprises
 - switching means (13), provided in said transmitting section (10a), being responsive to a switch control signal from said control section (10c) to switch passage of said transmission information signal and transmission control signal through said transmitting section (10a)
9. The mobile station according to claim 8 further comprising switching means (23), provided in said receiving section (10b), being responsive to said reception control signal to prevent passage of said reception information signal through said receiving section.
10. Use of the mobile station of claims 8 or 9 in a mobile radio communication system having a plurality of fixed stations (104, 108) connected to a plurality of public telephone lines (101) connected to a telephone exchange (102) and a telephone set (103) as well as a plurality of ordinary subscribers's telephone lines (106).

Revendications

1. Système de radio-téléphonie mobile comprenant une pluralité de stations fixes (50) respectivement connectées à une pluralité de lignes d'abonnés partant d'un central téléphonique, et une pluralité de stations mobiles (10, 10') reliées auxdites stations fixes (50), par des canaux radioélectriques, chacune desdites stations mobiles établissant une communication vocale par l'intermédiaire de l'une desdites stations fixes, comprenant en outre des moyens (76, 77, 75) prévus pour chaque station fixe pour transmettre une information de taxation provenant dudit central téléphonique à une station mobile en cours de communication, et un moyen de collecte de taxe (31, 35, 33) prévu pour chaque station mobile (10) et répondant à ladite information de taxation pour faire varier son contenu, caractérisé en ce que le moyen de collecte de taxe (31, 35, 33) comprend un moyen de commutation permettant la connexion de ladite information de taxation à un circuit de taxation (33) dudit moyen de collecte de taxe lorsque ladite station mobile en cours de communication se connecte à une station fixe reliée à une ligne d'abonné d'un téléphone public et pour interdire ladite connexion lorsque ladite station mobile en cours de communication se connecte à une station fixe particulière connectée à une ligne d'abonné ordinaire.
2. Système de radio-téléphonie mobile selon la revendication 1, dans lequel ledit moyen de commutation comprend un commutateur pour déconnecter électriquement ledit moyen de collecte de taxe de ladite station mobile.
3. Système de radio-téléphonie mobile selon la revendication 1, dans lequel ledit moyen de commutation comprend un moyen pour déconnecter physiquement ledit moyen de collecte de taxe de ladite station mobile.
4. Système de radio-téléphonie mobile selon l'une quelconque des revendications 1 à 3, dans lequel ledit moyen de collecte de taxe comprend un circuit de taxation (33) pour stocker une information de montant, ladite information stockée étant amenée à varier en réponse à ladite information de taxation.
5. Système de radio-téléphonie mobile selon l'une quelconque des revendications 1 à 4, dans lequel ledit moyen de collecte de taxe comprend un moyen d'affichage (36) pour afficher le contenu d'un circuit de taxation (33)

- dudit moyen de collecte de taxe.
6. Système de radio-téléphonie mobile selon l'une quelconque des revendications 1 à 5, dans lequel ledit moyen de collecte de taxe comprend une carte magnétique ou une mémoire à semiconducteur. 5
7. Système de radio-téléphonie mobile selon la revendication 6, dans lequel ledit moyen de commutation comprend un commutateur pour déconnecter électriquement ledit moyen de collecte de taxe de ladite station mobile en réponse au montage et au démontage de ladite carte magnétique ou mémoire à semiconducteur. 10 15
8. Station mobile reliée à une station fixe par l'intermédiaire d'un canal radioélectrique comprenant:
- une section d'émission (10a) pour émettre un signal d'information d'émission et un signal de commande d'émission à ladite station fixe connectée à une ligne d'abonné;
 - une section de réception (10b) pour recevoir un signal d'information de réception et un signal de commande de réception de ladite station fixe;
 - une section de taxation (10d)
 - une section de commande (10c) pour commander l'accès dudit signal de commande de réception à ladite section de taxation (10d) et l'émission dudit signal de commande d'émission provenant de ladite section de taxation (10d) vers ladite station fixe; 20 25 30 35
- caractérisé en ce que la station mobile comprend :
- un moyen de commutation (13) prévu dans ladite section d'émission (10a) répondant à un signal de commande de commutation provenant de ladite section de commande (10c) pour commuter le passage dudit signal d'information d'émission et dudit signal de commande d'émission au travers de ladite section d'émission (10a). 40 45
9. Station mobile selon la revendication 8, comprenant en outre un moyen de commutation (23) prévu dans ladite section de réception (10b), et répondant audit signal d'information de réception pour empêcher le passage dudit signal d'information de réception au travers de ladite section de réception. 50
10. Utilisation de la station mobile selon les revendications 8 ou 9 dans un système de radio-téléphonie mobile ayant une pluralité de stations fixes (104, 108) connectées à une pluralité

té de lignes téléphoniques publiques (101) reliées à un central téléphonique (102) et à un poste téléphonique (103) ainsi qu'à une pluralité de lignes téléphoniques d'abonnés ordinaires (106).

Patentansprüche

1. Mobiles Funkkommunikationssystem mit mehreren Feststationen (50), die entsprechend mit mehreren Teilnehmerleitungen verbunden sind, die sich von einer Telefonvermittlungsanlage aus erstrecken, und mit mehreren mobilen Stationen (10, 10'), die mit den festen Stationen (50) über Funkkanäle verbunden sind, wobei jede mobile Station über eine der festen Stationen kommuniziert, ferner mit Einrichtungen (76, 77, 75) für jede feste Station zum Senden einer Kosteninformation von der Telefonvermittlungsanlage zu einer kommunizierenden mobilen Station mit einem Kostenkollektor (31, 35, 33) für jede mobile Station (10), der zur Veränderung seines Inhalts auf die Kosteninformation anspricht, **dadurch gekennzeichnet**, daß der Kostenkollektor (31, 35, 33) eine Schalteinrichtung zum Verbinden der Kosteninformation mit einem Kostenschaltkreis (33) des Kostenkollektors aufweist, wenn die kommunizierende mobile Station sich mit einer festen Station verbindet, die mit einer Teilnehmerleitung des öffentlichen Telefonsystems verbunden ist, und zum Trennen dieser Verbindung, wenn die kommunizierende mobile Station sich mit einer bestimmten festen Station verbindet, die mit einer normalen Teilnehmerleitung verbunden ist.
2. Mobiles Funkkommunikationssystem nach Anspruch 1, wobei die Schalteinrichtung einen Schalter zum elektrischen Trennen des Kostenkollektors von der mobilen Station aufweist.
3. Mobiles Funkkommunikationssystem nach Anspruch 1, wobei die Schalteinrichtung eine Einrichtung zum physikalischen Trennen des Kostenkollektors von der mobilen Station aufweist.
4. Mobiles Funkkommunikationssystem nach einem der Ansprüche 1 bis 3, wobei der Kostenkollektor einen Kostenschaltkreis (33) zum Speichern der Information der Geldmenge aufweist, wobei die gespeicherte Information in Abhängigkeit von der Kosteninformation verändert wird.
5. Mobiles Funkkommunikationssystem nach ei-

- nem der Ansprüche 1 bis 4, wobei der Kostenkollektor eine Anzeige (36) zum Darstellen des Inhalts eines Kostenschaltkreises (33) des Kostenkollektors aufweist.
- 5
6. Mobiles Funkkommunikationssystem nach einem der Ansprüche 1 bis 5, wobei der Kostenkollektor eine Magnetkarte oder einen Halbleiterspeicher aufweist.
- 10
7. Funkkommunikationssystem nach Anspruch 6, wobei die Schalteinrichtung einen Schalter zum elektrischen Trennen des Kostenkollektors von der mobilen Station in Abhängigkeit vom Einsatz und Herausnehmen der Magnetkarte oder des Halbleiterspeichers aufweist.
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8. Mobile Station, die mit einer festen Station über einen Funkkanal verbindbar ist, mit einer Sendeeinheit (10a) zum Senden eines Übertragungsinformations-Signals und eines Übertragungs-Steuersignals zu der mit einer Teilnehmerleitung verbundenen festen Station; einer Empfangseinheit (10b) zum Empfangen eines Empfangsinformations-Signals und eines Empfangs-Steuersignals von der festen Station; einer Kosteneinheit (10d); einer Steuereinheit (10c) zum steuern des Zugriffs des Empfangs-Steuersignals auf die Kosteneinheit (10d) und zum Übertragen des Sende-Steuersignals von der Kosteneinheit (10d) zur festen Station;
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- 25
- 30
- 35
- 40
- dadurch gekennzeichnet**, daß die mobile Station eine Schalteinrichtung (13) aufweist, die in der Sendeeinheit (10a) vorgesehen ist, und auf ein Schaltsteuersignal von der Steuereinheit (10c) anspricht, um den Durchgang des Übertragungs-Informationssignals und des Übertragungs-Steuersignals durch die Sendeeinheit (10a) zu schalten.
- 45
9. Mobile Station nach Anspruch 8, ferner mit einer Schalteinrichtung (23), die in der Empfangseinheit (10b) vorgesehen ist und auf das Empfangs-Steuersignal anspricht, um den Durchgang des Empfangs-Informationssignals durch die Empfangseinheit zu verhindern.
- 50
- 55
10. Verwendung der mobilen Station der Ansprüche 8 oder 9 in einem mobilen Funkkommunikationssystem mit mehreren festen Stationen (104, 108), die mit mehreren öffentlichen Telefonleitungen (101), die mit einer Telefonvermittlungsanlage (102) und einem Telefongerät (103) verbunden sind, und mit mehreren normalen Teilnehmertelefonleitungen (106) verbunden sind.

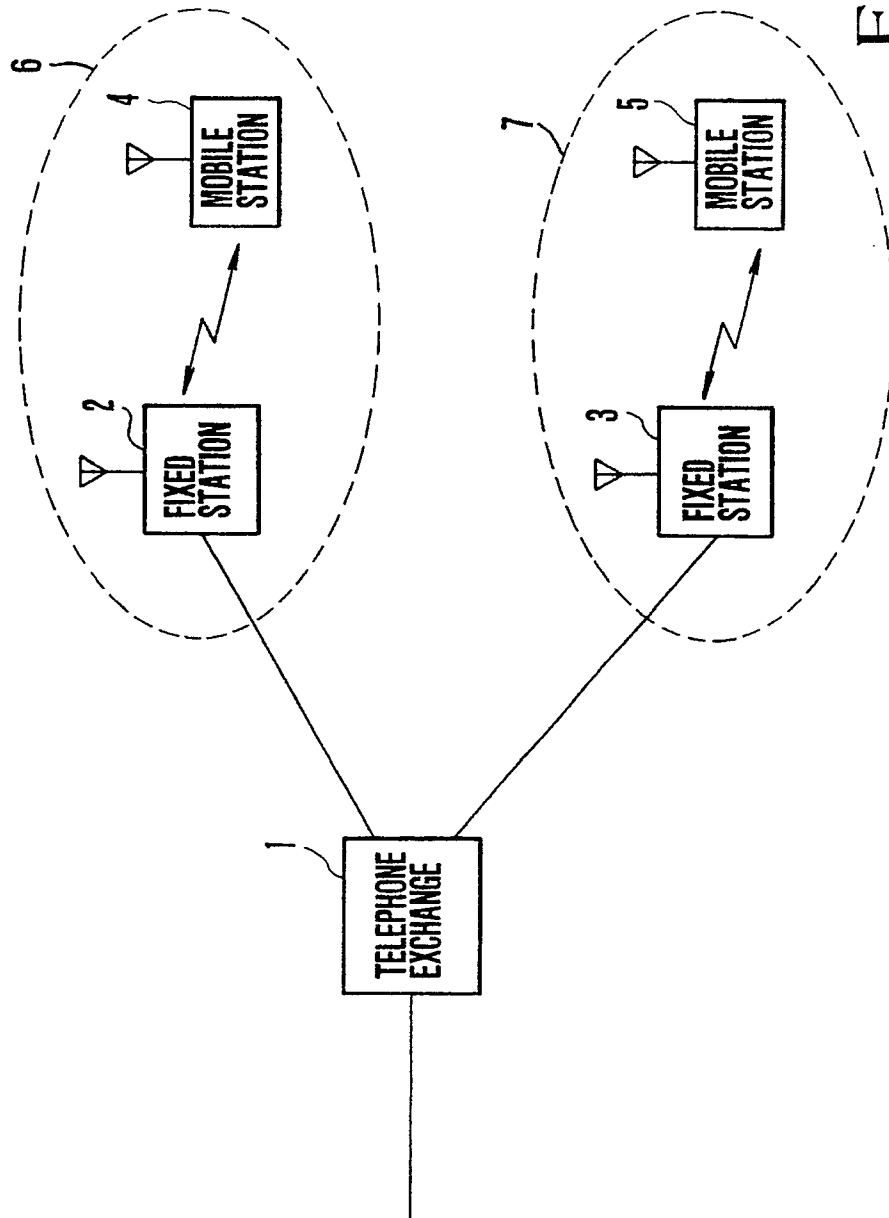


FIG. 1

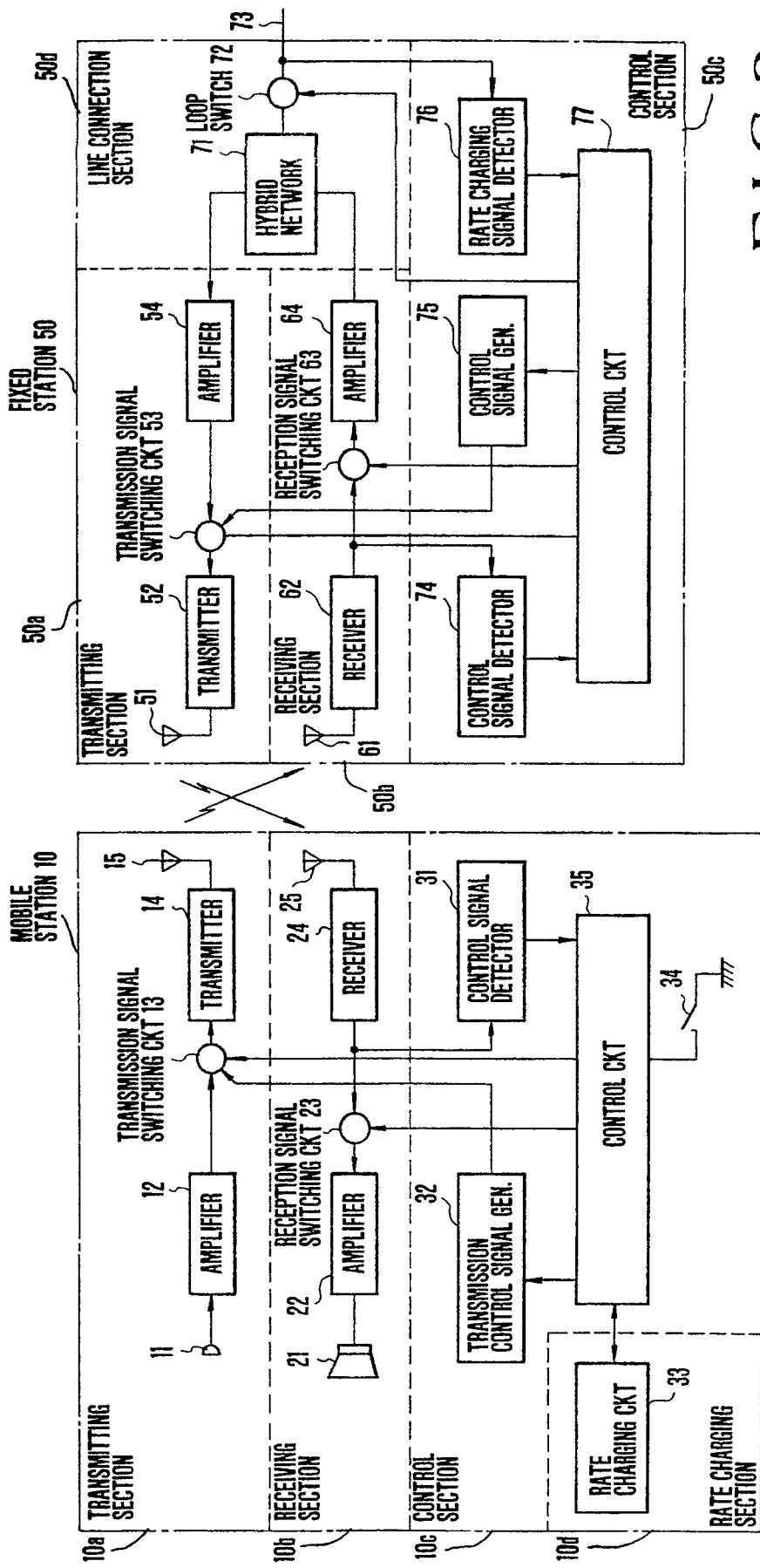


FIG.2

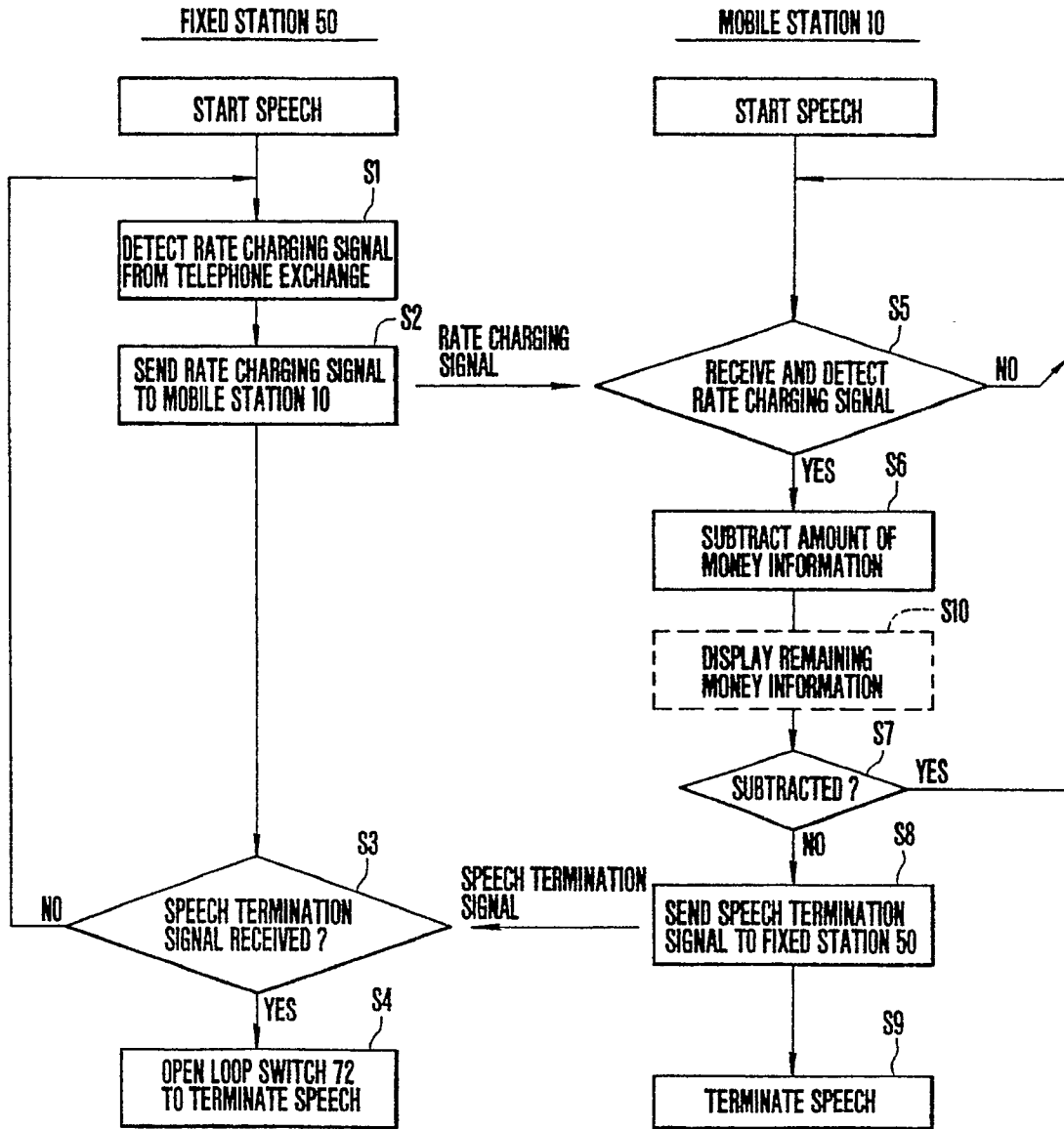


FIG.3

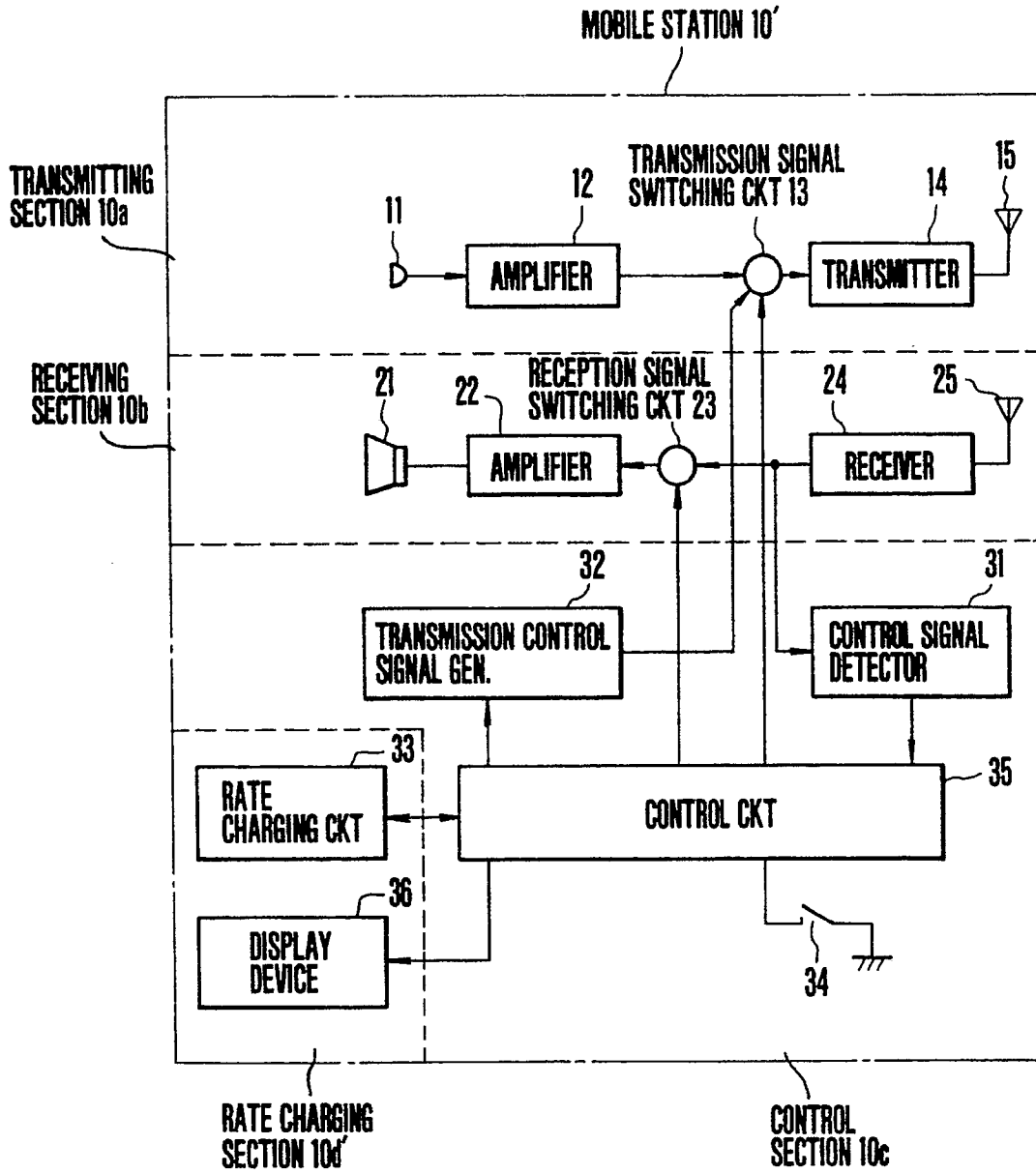


FIG.4

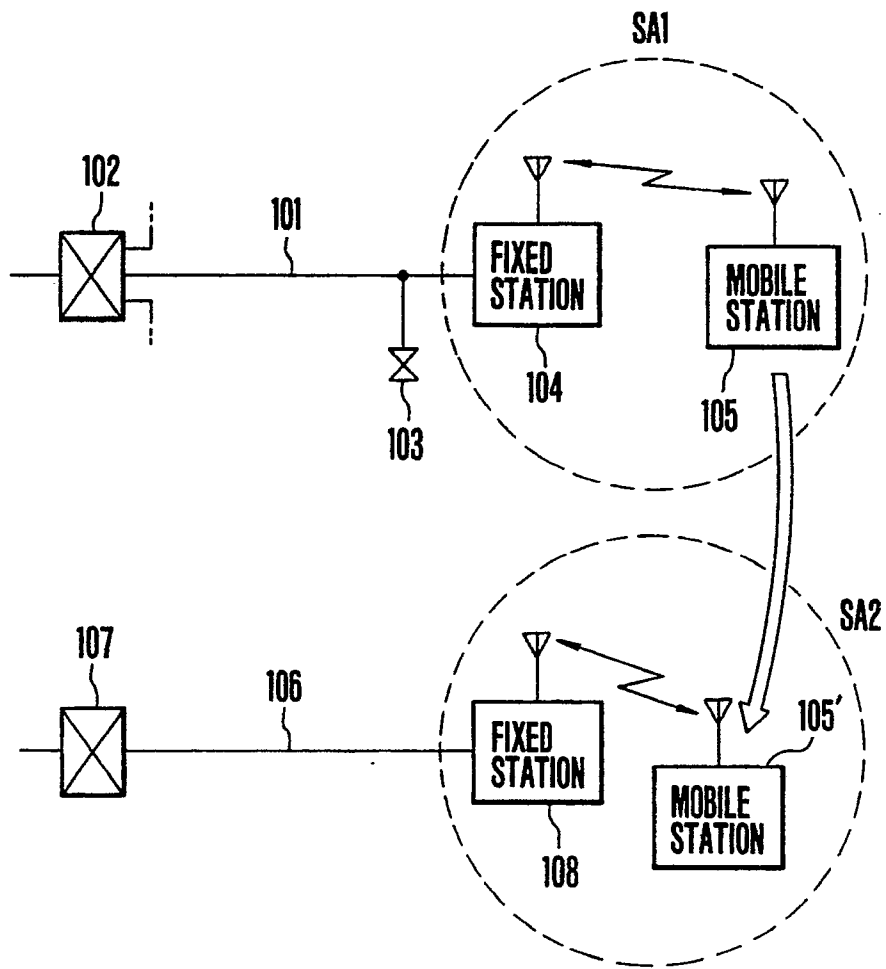


FIG.5

